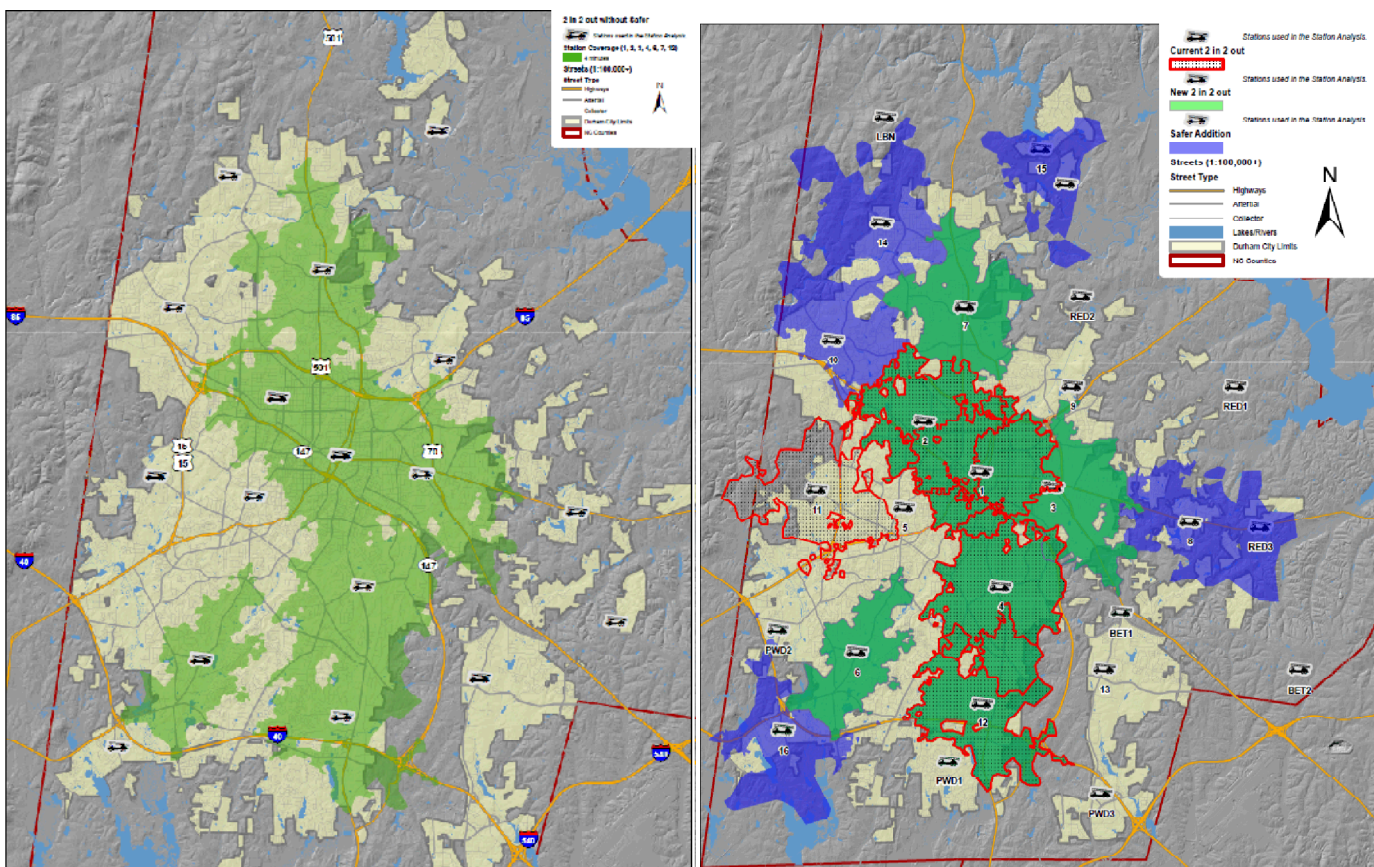


2011 SAFER Grant Proposed Use

This SAFER grant will be used to fund 15 new firefighters which will increase our “two-in, two-out” [OSHA 29 CFR 1910.134(g)(4)] capability within existing Durham Fire Department districts, and it will also improve response times for the Effective Response Force (ERF).

The effective response force for the Durham Fire Department is 17 firefighters (individuals active in the hot zone). This number was determined through critical task analysis (CTA) performed by the Durham Fire Department in 2011. CTA was validated in an on-site review by the Commission for Fire Accreditation International, and is in compliance with NFPA guidelines. With staffing levels at three personnel per unit, the time required to assemble this number of personnel is excessive, especially in outlying districts. The plan for the SAFER firefighters is to commit to minimum four firefighter staffing at outlying stations 8, 10, 14, 15, and 16. That level of staffing will allow interior firefighting activity to begin prior to arrival of the second unit. With three firefighter staffing, interior attack can only begin after the arrival of a second unit (unless a confirmed rescue need exists), and the six firefighters on-scene at that point must still defer some essential activities (additional hoselines, laddering, creating additional means of egress, utility control, etc..). These essential firefighting activities are the department’s most complex and impactful inputs. It is the efficient and proper execution of these actions that has the greatest impact on firefighter and resident safety. The need to engage in these activities at an earlier point in time in the incident, or assemble the ERF in a shorter timeframe, will be addressed by the SAFER staffing placed strategically throughout the city, by the reallocation of current resources, and by hiring cycle changes previously discussed with CMO/BMS and which will be necessary with acceptance of the grant.

Increased Two-In/Two-Out Coverage Due To SAFER



Aug. Deployment 138,728 Residents 60.7% With SAFER 179,136 Residents 70.4%

Beige color = Durham City Limits


Green = 2 In 2 Out coverage within time needed for non-delayed suppression activities – After August redeployment

Blue = 2 In 2 Out coverage added by SAFER firefighters – Stations 8, 10, 14, 15, 16

Red Dots = Fire Stations

Red Outlines = 2 In 2 Out coverage prior to August redeployment

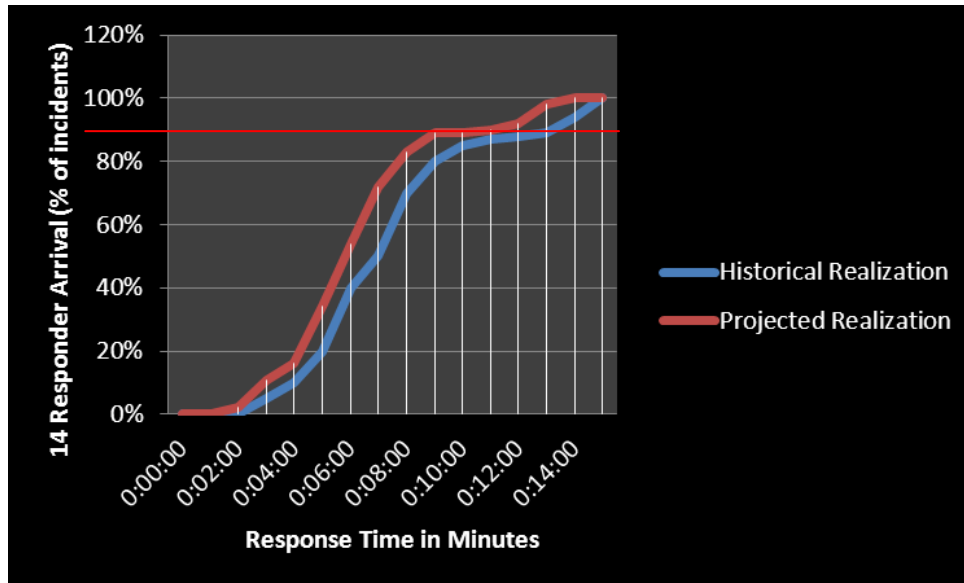
District	Pop./Sq. Mi.	Sq. Mi. (district)	District Pop.	Service Level
1	3,588.73	3.4	12,202	Metropolitan
2	4,031.06	5.55	22,373	Metropolitan
3	2,981.43	6.01	17,919	Urban
4	2,446.02	9.06	22,161	Urban
5	3,019.56	5.93	17,906	Metropolitan
6	2,083.64	9.13	19,024	Urban
7	2,334.77	9.25	21,597	Urban
8	1,499.01	7.04	10,554	Suburban
9	1,680.27	6.35	10,670	Suburban
10	1,154.72	8.87	10,243	Suburban
11	1,676.13	7.07	11,851	Suburban
12	2,549.10	9.2	23,452	Urban
13	1,003.92	9.04	9,076	Suburban
14	1,394.23	4.18	5,829	Suburban
15	662.75	6.45	4,275	Rural
16	1,518.57	6.26	9,507	Suburban
228,639				

 District Moves  SAFER Staffing

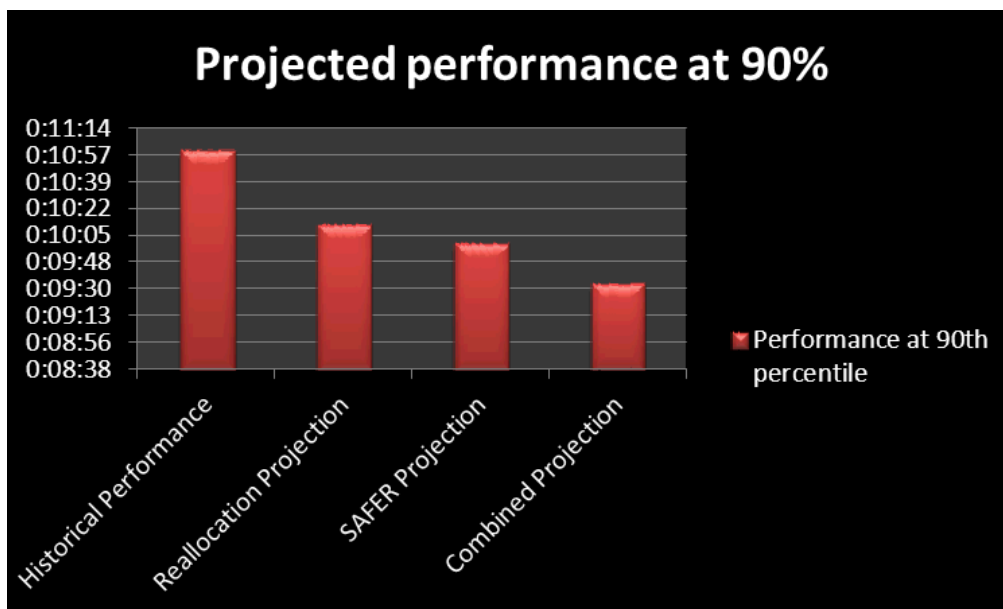
	% of pop.
District moves alone increase 2 in / 2 out by 46,689 citizens (58,540 population minus 11,851)	20.40%
SAFER staffing alone increases 2 in / 2 out by 40,408 citizens	17.70%
Both moves increase 2 in / 2 out by 87,097 citizens	38.10%
City-wide 2 in / 2 out compliance currently is 92,039 citizens	40.30%
City-wide 2 in / 2 out compliance projected to increase to 179,136 citizens	78.30%

Arrival of the Minimum Effective Response Force (ERF) —Projected Realization

This chart focuses on the time it takes for the arrival of a minimum ERF—14 personnel as prescribed by NFPA 1710. Notice the occurrence gains being realized progressively from the three minute mark to the 13 minute mark. The 90th percentile also shifts, from 11 minutes to 10 minutes. Again, these are projections as the DFD has not ever had staffing at this level covering this quantity of geographical area.



The plan for the reallocation of existing resources model shows improvements between five and 10 percent at the 90th percentile in the Suburban areas. However, actual performance is a result of frequency as well. If historical frequency remains consistent over the next three years, then we can reasonably estimate a 14% improvement in the cumulative measure.

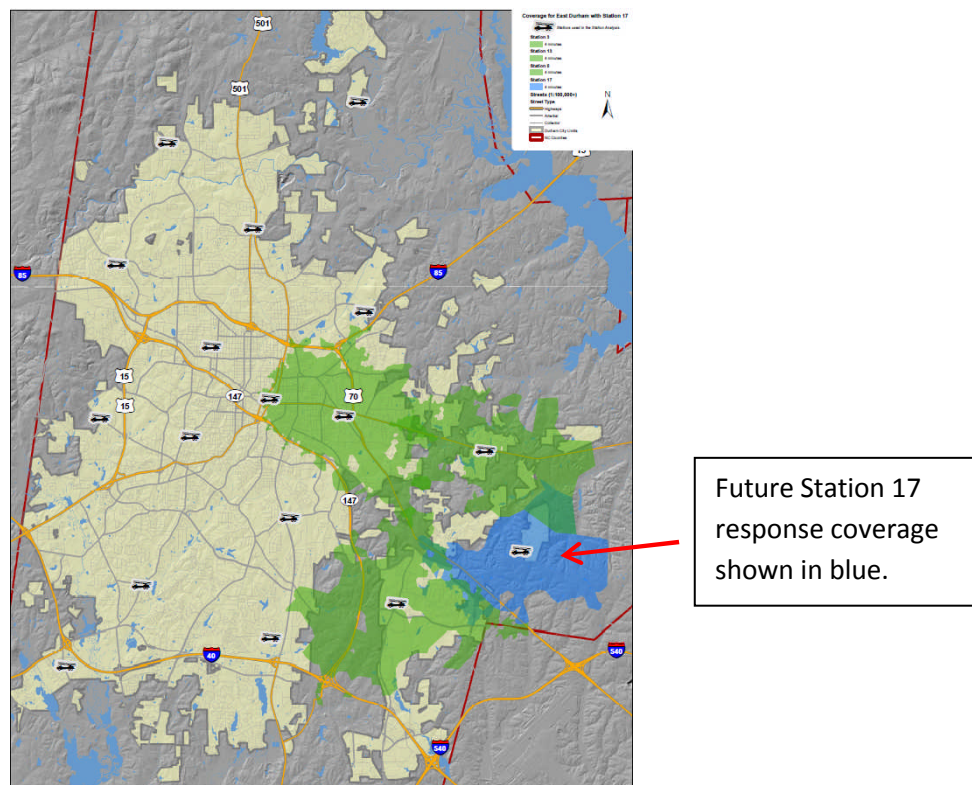


Fire Totals by Resource Allocation

Fire: Incident types	2010	2011	2012 (to date)
100-114 and 120-123			
Total Number of Fires in Calendar Year	422	400	219
Current 2 in-2 out coverage	163	177	77
Coverage with August re-allocation	253	259	128
With SAFER staffing and current coverage	203	217	98
With combined allocation	280	289	144

Station 17 Staffing Option

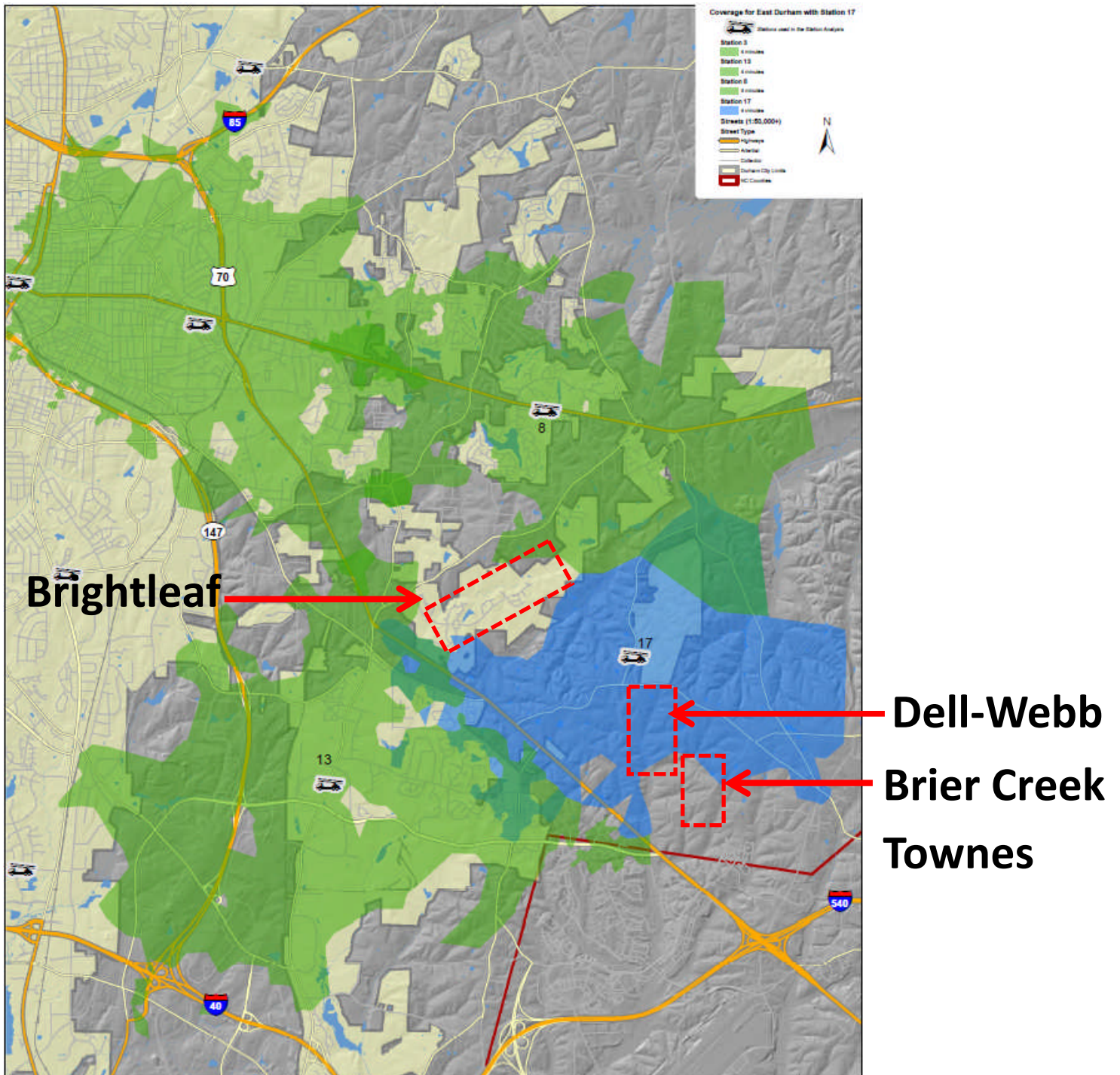
An additional benefit of the SAFER firefighters would be the ability to use them for staffing Fire Station 17 (FY2015 CIP) in the event that fiscal constraints prohibit the hiring of additional FTEs when the station is completed. There has been continued annexation activity south of Leesville Rd. which will require the opening of a station to serve that area of the city. This station would also serve the current Brightleaf subdivision. A brief analysis of the impact of station 17 is shown on the following pages.



Future Station 17 Impact

The map below represents the existing City of Durham Fire Department coverage of the existing Brightleaf subdivision and proposed annexations in the Leesville Rd. area of the city, Dell-Webb and Briar Creek Townes.

- The 4 minute response times of Stations 3, 8, and 13 are depicted in green
- The blue boundary and manilla colored areas show what is not within our standard response parameters.
- Current coverage is inadequate with over 8 minute travel time to the proposed annexed areas from existing Durham stations.
- Much of this area is subject to a first unit response time greater than our standard for full effective response force.



The map below represents the coverage of future Fire Station 17 if located at the southern end of Doc Nichols Rd. near the intersection of Leesville Rd.

- This map shows a four minute response boundary for Station 17 (green shaded area) which adequately covers Brightleaf and the annexed areas. The yellow, tan, and red areas are boundaries for 5, 6, and 8 min. travel times, respectively.
- The Brightleaf subdivision southeast of Sherron Rd. (2,840 planned units) still appears to be outside the green boundary; however, once Kinard Rd. is completed from Doc Nichols Rd. into the back of the Brightleaf development there will be a 4 minute travel time through Brightleaf to Sherron Rd.
- The Leesville Rd. Dell-Webb community (planned 1,168 single family residences and 150 Townhomes) and Briar Creek Townes annexations (planned 177 Townhomes and 25,000 Sq/ft commercial space) will fall into the green 4 minute boundary once the roads are added.

